

Serial No.: 10/725,375

REMARKS

Claims 1-7, as amended, remain herein.

Applicants appreciate the statements in the Office Action that claim 4 is allowed.

Editorial changes for clarity have been made in claims 1-7.

1. Claims 1, 6 and 7 were rejected under 35 U.S.C. §103(a) over Makino et al. U.S. Patent 6,544,009 and Ojima et al. U.S. Patent 6,700,273.

The presently claimed motor is as described herein, including concentrated winding wires wound around a portion of each of the teeth, and grooves in the outer circumferential surface of the stator. This arrangement is nowhere disclosed or suggested in either cited reference.

The Office Action cites Makino '099 as allegedly disclosing a motor having three-phase concentrated windings provided to the teeth. Actually, while Makino '099 discloses the motor having three-phase windings, Makino '099 does not disclose such windings being "concentrated windings," but instead, discloses Figure 4 showing a stator for holding distributed windings.

Serial No.: 10/725,375

This distinction is obvious to a person skilled in the art because the Makino '099 motor has a plurality of teeth having relatively narrow ends facing the rotor and separated by relatively narrow slots for the size of the motor. A motor, for its size, having a relatively large number of narrow-tipped teeth separated by narrow slots must have a distributed winding, which is necessary to provide a relatively low occurrence of magnetic flow changes per unit of time, which results in vibration-free operation. Such a motor, as shown in Makino '099, Fig. 4, has narrow teeth and narrow notches for holding the distributed winding, while applicants' motor shown in Fig. 2, has wide teeth and wide notches for holding much fewer, but concentrated windings. Additionally, Makino '099, column 5, line 58, discloses that the notches 41 and holes 42 are for weight reduction, and not for vibration control, which is the case with concentrated winding motors. Nowhere in Makino '009 is there any disclosure or suggestion that the Makino '009 distributed winding is a concentrated winding, nor is there anything in the present record teaching that distributed windings such as described by Makino '009 would be equivalent or

Serial No.: 10/725,375

comparable to concentrated windings, as recited in applicants' claim 1.

Contrary to the statement on page 1 of the Office Action, the Office Action, page 3, admits that Makino '009 does not disclose concentrated windings and cites Ojima et al. U.S. Patent 6,700,273, as allegedly teaching same. However, the Ojima '273 concentrated winding motor is completely different than the distributed winding motor of Makino '009. Ojima '273, Fig. 4, shows a motor having thick teeth and wide slots for holding concentrated windings, while Makino '009 has narrow teeth and narrow slots for distributed windings. Makino '009, column 1, lines 19-44, describes advantages of the distributed winding compressor motor being relatively light weight and having quiet operation for the size of the motor, while still having holes for conveying refrigerant. According to Makino '009, column 1, lines 29-35, such distributed winding motors have advantages over alternative compressor motor designs (which would include concentrated winding motors). Therefore, contrary to the Office Action, a person skilled in the art would not have any motivation to convert the Makino '009 distributed winding

Serial No.: 10/725,375

motor into an entirely different concentrated winding motor design that loses the advantages stated in Makino '009, merely out of a desire for achieving a smaller motor. Changing the structure of the teeth and the windings is a change to a substantial part (nearly all) of the stator, leaving only a minor layer of iron yoke near the casing unchanged. Nowhere in Ojima '273 is there any motivation for making such an extreme change.

Moreover, changing the Makino '009 distributed winding motor into the entirely different concentrated winding described by Ojima '273 would result in impermissible re-design of the Makino '009 structure *Ex parte Jackson*, 146 USPQ 409 (BdPatApp&Int 1965); (claims are not rejected as unobvious over primary reference in view of secondary reference where to so modify device of primary reference would destroy its structural identity and mode of operation). Changing the Makino '009 motor as suggested in the Office Action would remove the features and advantages described by Makino '009, i.e., change its structural identity and mode of operation. Applicants' submit that there is no reasonable basis in law for suggesting that a person

Serial No.: 10/725,375

skilled in the art would change the Makino '009 distributed winding motor into a concentrated winding motor as disclosed in Ojima '273.

For the foregoing reasons, neither Makino '009 nor Ojima '273 contains any teaching, suggestion, reason, motivation or incentive that would have led one of ordinary skill in the art to applicants' claimed invention. Nor is there any disclosure or teaching in either of these references that would have suggested the desirability of combining any portions thereof effectively to anticipate or suggest applicants' presently claimed invention. Claims 6 and 7, which depend from claim 1, are allowable for the same reasons explained herein for claim 1. Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

2. Claims 2, 3 and 5 were rejected under 35 U.S.C. §103(a) over Redding Jr. U.S. Patent 2,953,699 and Ojima '273.

The presently claimed motor is as described herein, including concentrated winding wires located adjacent to the teeth, and the stator including grooves in the outer

Serial No.: 10/725,375

circumferential surface of the stator. This arrangement is nowhere disclosed or suggested in either cited reference.

The Office Action admits that Redding '273 does not disclose three-phase concentrated windings and a permanent magnet motor, and cites Ojima '273 as allegedly teaching same. The Office Action alleges that one skilled in the art could have modified the Redding '273 structure to include the concentrated windings and permanent magnets of Ojima '273.

Redding '699, column 2, lines 18-21, describes "[t]hese slots, after the stack 1 is placed within the shell or casing 3, are filled with a thermosetting plastic adhesive 13," which means that the holes are closed, and not grooves, in combination with the housing, extending completely through the thickness of the stator. Therefore, Redding '699 does not disclose a stator including concentrated windings and also having open grooves in the circumferential surface of the stator and openly extending through its axial thickness, as recited in applicants' claims 2 and 3.

Moreover, as the Office Action admits, Redding '699 does not disclose concentrated windings, which is evident from the

Serial No.: 10/725,375

relatively narrow teeth and intervening slots, indicative of distributed winding, as discussed herein relative to similar Makino '009. As previously discussed herein, the Ojima '273 concentrated winding motor is completely different than the distributed winding motor of the type disclosed in Redding '699. Therefore, contrary to the Office Action, a person skilled in the art would not have any motivation to convert the Redding '699 distributed winding motor into an entirely different concentrated winding motor design that loses the advantages stated in Redding '699, merely out of a desire for achieving a smaller motor. Nowhere in Ojima '273 is there any motivation for making such an extreme change.

Moreover, changing the Redding '699 distributed winding motor into the entirely different concentrated winding described by Ojima '273 would result in impermissible re-design of the Redding '699 structure *Ex parte Jackson*, 146 USPQ 409 (BdPatApp&Int 1965); (claims are not rejected as unobvious over primary reference in view of secondary reference where to so modify device of primary reference would destroy its structural identity and mode of operation). Changing the Redding '699

Serial No.: 10/725,375

motor as suggested in the Office Action would remove the narrow teeth and narrow slots described by Redding '699, i.e., change its structural identity and mode of operation for operating with a distributed winding. Applicants' submit that there is no reasonable basis in law for suggesting that a person skilled in the art would change the Redding '699 distributed winding motor into a concentrated winding motor as disclosed in Ojima '273.

For the foregoing both reasons, neither Redding '699 or Ojima '273 contains any teaching, suggestion, reason, motivation or incentive that would have led one of ordinary skill in the art to applicants' claimed invention. Nor is there any disclosure or teaching in either of these references that would have suggested the desirability of combining any portions thereof effectively to anticipate or suggest applicants' presently claimed invention. Claim 5, which depends from claim 2, is allowable for the same reasons explained herein for claim 2. Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

Serial No.: 10/725,375


All claims 1-7 are now proper in form and patentably distinguished over all grounds of rejection stated in the Office Action. Accordingly, allowance of all claims 1-7 is respectfully requested.

Should the Examiner deem that any further action by the applicants would be desirable to place this application in even better condition for issue, the Examiner is requested to telephone applicants' undersigned representatives.

Respectfully submitted,

PARKHURST & WENDEL, L.L.P.

August 17, 2004
Date


Roger W. Parkhurst
Registration No. 25,177
Robert N. Wieland
Registration No. 40,225

RWP:RNW/mhs

Attorney Docket No.: YMOR:299

PARKHURST & WENDEL, L.L.P.
1421 Prince Street, Suite 210
Alexandria, Virginia 22314-2805
Telephone: (703) 739-0220